Online Service System Installation Guide for BMW Group Vehicle Service

1 Introduction

Online Service System (OSS)

The OSS has been developed specifically for independent automotive workshops to provide an extensive range of resources.This includes:

- **ISTA**
  - **Vehicle Diagnostics**
  - **Display of Technical Information**:
  - **Wiring Diagram System:**

  The zoom function allows you to see the smallest detail in the wiring diagrams and the networking of the wiring diagrams to additional information, such as functional descriptions and pin assignments.

- **webISTA**
  - **Display of Technical Information**:
    - Repair Instructions
    - Technical Data
    - Tightening Torques
  - **Wiring Diagram System:**
    - Wiring Diagrams
    - Pin Assignments
    - Installation Locations
    - Connector Views
    - Functional Descriptions

- **ISTA/P**
  - Vehicle coding and Programming

- **Commercial Service Data (KSD)**

  With WebKSD, you can view the number of flat rate units corresponding to each repair. Based on the vehicle identification number or by selecting the series and model, you can view the flat rate unit data for defined scopes of repair work.

  - Approved wheel/tire combinations

- Summer and winter tire recommendations
- Styling presentation of the wheels
- Snow chain recommendations

- **Technical Support**
  - Technical support for OSS applications

1.1 Explanation of the symbols used

In this User Manual, the following symbols have the following meanings:

WARNING

The symbol "WARNING" indicates actions that could result in personal injuries.

CAUTION

The symbol "CAUTION" refers to actions that could result in material damage.

NOTE

The symbol "NOTE" indicates text passages that are especially important e.g. in relation to procedures so that undesired or unexpected results are not produced.

Information

The symbol "INFORMATION" refers to other documentation.

1.2 Important security instructions

Before using the OSS, you should familiarise yourself with the relevant security regulations and comply with the instructions in this manual.

WARNING

Certain functions in ISTA may result in the actuation of components in the connected vehicle. Before components are activated it should be ensured that no-one is in the danger area. The general safety regulations should be observed.

1.3 Chapter contents

This document is organised as follows:

Chapter 1 contains general information on the workshop system.

Chapter 2 contains the introduction.

Chapter 3 contains step-by-step instructions on PC configuration and initial software installation.

Chapter 4 contains step-by-step instructions for the OSS software applications.

Chapter 5 contains frequently asked questions.

2 Overview of Online Service System for BMW Service and MINI Service (OSS)

With the OSS an online workshop system is available to authorized users, such as e.g. independent garages/workshops, training institutions, etc. Software must be installed on your PC to use the OSS systems.

NOTE

webISTA use does not require the installation of OSS software.

2.1 OSS system environment

The OSS consists of a PC or laptop connected to BMW AG via the Internet. To connect to the vehicle, you can use the diagnosis interface used in BMW Group authorized workshops "Integrated Communication Optical Module (ICOM)" or the standard device "Pass Thru Tool (PTT)". The two devices differ in how they are connected to the PC (see Figure2.1).

To begin, you must download some software components and install them on the PC. Only then will the PC work as a client together with the server at BMW AG. Offline operation is not possible.

NOTE

The connection to OSS functions only for PCs on which no proxy or similar which expects authentication is connected in between. In this respect, the Internet connection can also be established via a LAN if no additional inputs of user name/password are required.

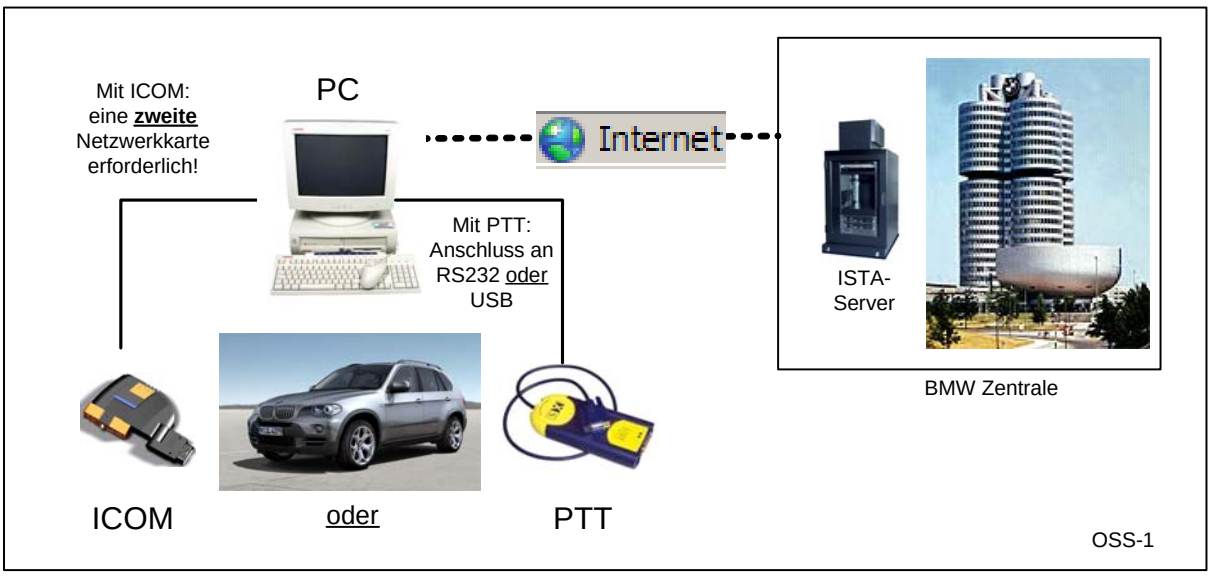


Fig.2.1 ISTA Workshop System – Overview

2.1.1 Personal computer (PC)

A desktop or laptop computer meeting the system requirements is needed to use the OSS system (see section 3.1).

2.1.2 Integrated Communication Optical Module (ICOM)

The ICOMs are the BMW Group-recommended interfaces for working with BMW and MINI vehicles. The ICOMs have been specially developed for BMW Group vehicles and are used in the BMW Group dealer organisation. They have powerful processors and a high memory capacity. These enable vehicles to be treated much faster than with a PTT.

Three different ICOMs (Integrated Communication Optical Module) are available. All BMW Group vehicles can be treated with them:

- ICOM A for vehicles with OBD access port
- ICOM B, in conjunction with ICOM A, for vehicles with MOST direct access port
- ICOM C, in conjunction with ICOM A, for vehicles with 20 pin diagnosis socket

2.1.2.1 Sequence of connecting ICOM to the vehicle

Connection, ICOM to OBD access port

First connect the ICOM A via the computer's free network connection, then plug the OBD connector on the ICOM A into the OBD socket on the vehicle. The OBD connector on the ICOM A can be angled, allowing it to be adjusted for OBD sockets at different installation locations in the vehicles.

Using ICOM at MOST direct access port

Also use the ICOM B module to connect the ICOM to the vehicle MOST direct access port. To do so, connect the USB ports of the ICOM A and ICOM B with the USB cable. Then connect the ICOM A via the computer's free network connection. Connect ICOM B via the MOST connector to the MOST direct access port of the vehicle and plug the OBD connector of ICOM A into the OBD socket on the vehicle. Repeat the procedure if the MOST direct access port or the ICOM is not recognised.

Using ICOM at diagnosis socket

Use the ICOM C module to connect the ICOM to the 20-pin diagnosis socket on the vehicle. To do so, connect the OBD connector on the ICOM C to the OBD connector on the ICOM A. Then connect the diagnostic head connector to the 20-pin diagnosis socket in the vehicle.

Waiting time after connecting an ICOM to a PC

It can take up to 15 minutes before the ICOM is detected by the PC. It is advisable to connect the ICOM immediately after starting the PC.

2.1.3 Pass Thru Tool (PTT)

If a PTT is to be used a driver from the manufacturer is required. Contact your PTT manufacturer for information and support.

2.1.3.1 BMW Group-specific adapters and cables

BMW Group-specific adapters are required for connecting to certain vehicles. Please check with your PTT manufacturer for availability.

20-pin adapter

The following vehicles required the 20-pin adapter for diagnosis purposes:

- 323i Saloon/Sedan up to model year (MY) 1998, 323i Coupé/Convertible up to MY 1999
- 328i, 330i Saloon/Sedan up to MY 1998, 328i, 330i Coupé/Convertible up to MY 1999
- 528i, 530i up to MY 1998
- 540i up to MY 1997
- 740i up to MY 1997
- M3 Coupé/Convertible up to MY 1999
- M3 Roadster/Coupé up to MY 2000
- Z3 Roadster 2.8/3.0 up to MY 1998
- X5 up to MY 2005

7-8-pin adapter

This adapter is required for BMW vehicles with OBD access ports. With the exception of the following vehicles:

- 3 Series Saloon/Sedan/Touring from MY 2005, Coupé from MY 2006, Convertible from MY 2007
- 5 Series Saloon/Sedan from MY 2003, Touring from MY 2004
- 6 Series Coupé from MY 2003, 6 Series Convertible from MY 2004
- 7 Series from MY 2001 to MY 2008

Vehicles developed and produced later no longer require these adapters.

2.1.3.2 Sequence of connecting the PTT to the vehicle

First connect the USB cable or RS232 cable from the PTT to the PC. Do not use a USB hub. Then connect the matching diagnosis cable to the PTT and finally to the vehicle.

2.1.3.3 Vehicles that cannot be treated with the PTT

The following vehicles communicate via the K2 protocol and cannot be programmed with the PTT:

- 318i, MY 1996-1999
- 840Ci, MY 1996-1997
- Z3 Roadster 1.9, MY 1996-1998.

Programming is possible with ISTA/P Online and ICOM or at BMW Service.

2.1.3.4 US and Canada markets

If you want to program or code a K2 vehicle listed in section 2.1.3.3, send an e-mail to servicetechinfo@bmwna.com. The following data must be specified in the e-mail:

- Vehicle type
- Model year
- Last 7 digits of the vehicle identification number
- Which module is to be programmed, coded or replaced
- Your name and your email address

2.2 Limitations for ISTA on OSS

- No Operations list (there is only one operation).
- No Customer statements in the "Operation details" index tab.
- No Repair history.
- No FBM reports.
- No Administration (Client setting, Dealer data, Version status).
- No Measuring instruments (substitute value input possible).
- No Operating mode
- No Status display

The associated functions always remain shaded in grey. An appropriate note is featured in each case in the User Manual.

2.3 Power supply

Without a stable power supply programming aborts or faulty programming may occur. A BMW Group-approved charger with the following properties is recommended for the power supply:

- Microprocessor-controlled monitoring and adaptation of the vehicle's current intensity decrease
- External power supply mode (for ensuring a constant voltage supply during programming)

An approved charger can be ordered from the Internet address http://store.apinet.com

2.4 Internet connection

Without a stable Internet connection programming aborts or faulty programming may occur. A stable Internet connection must be guaranteed for the entire time that work is being carried out in the OSS. In the case of some model series, depending on the equipment specification and the vehicle condition, programming may take several hours and a data volume of several hundred megabytes may be transferred. The Internet provider should ensure that the IP address is not changed during the session.

3 OSS Installation

3.1 Technical Requirements

In order to use the Online Service System (OSS), the following technical conditions are to be met:

1. **Network**

- Internet connection,
  - with a **bandwidth** of at least 2 Mbit / s and
  - with a **latency** below 100 ms of the connection to the
    - OSS server in Spartanburg, South Carolina for users in the USA and Canada
- No satellite connections
- No GMS
- No WLAN
- No UMTS unless additional conditions are met:
  - UMTS, with a bandwidth of at least 2 Mbit / s and
  - a latency below 100 ms and the OSS server to be achieved by a continuous and stable link to your site. (Example: UMTS / HSAP with HSUPA5.7 meets these criteria)
- Your Internet provider should ensure that your IP address is not changed during the session.

2. **Hardware**

- At least 2 GB of memory
- CPU better than Pentium IV ®, clock speed of at least 2 GHz
- At least 20 GB of free disk space
- A network card for an Internet connection and an additional second network card if using an ICOM interface for vehicle communication
- When using a PTT: A free serial interface RS 232 or USB
  The PTT **cannot** be controlled **via Bluetooth**
- At least 15" monitor, resolution 1024 x 768 pixels, 256 colors
- Keyboard and mouse - or similar devices

For vehicle diagnosis or programming you need one of the following vehicle interfaces:

- ICOM (recommended by BMW) or
- Pass Thru Tool (PTT), which must be compatible with SAE J2534.
  You need a PTT driver from the PTT manufacturer, wich is to be installed in accordance with the OSS user manual.

3. Operating system

In order to use the Online Service System applications ISTA, ISTA/P and KSD, you must be operating:

- Microsoft Windows XP Professional ® with Service Pack 2 or higher, including all online updates **(32-BIT)** or
- Microsoft Windows Vista ® Business with Service Pack 1, including all online updates **(32-BIT)**

Additional required software:

- Java Runtime ®, Environment ® min. JRE 6 Update 5
  http://java.sun.com/products/archive/j2se/6u5/index.html
- Microsoft .NET Framework 3.5
  http://www.microsoft.com/downloads
- Microsoft **.** NET Framework 2.0 Service Pack 2
  http://www.microsoft.com/downloads
- **Please note:** Microsoft .NET 3.5 includes the .Net 2.0 software, but not the required Service Pack 2 update.

4. Browser

The Online Service System can only be used with the following browsers:

- Internet Explorer ® 6 or 7

Your browser must be running in full screen mode. In addition, some OSS browser setting changes, listed in the user instructions, are required.

5. Firewall, packet filter

To use the diagnostic information system (ISTA):

With existing packet filters or a firewall, the network card used for internet connectivity must allow the following:

- Port 443 TCP Outbound
- default routing for Internet traffic

Requirements for using an ICOM:

For the network card used for an ICOM, the following firewall ports are to be opened:

- TCP port 80
- TCP port 23 011
- TCP port 23 012
- UDP Port 427
- UDP port 11 352

Otherwise, the connection to the ICOM fails.

These settings can be changed by system administrators only.

6. Exclusive use of OSS, Administrator rights

- No simultaneous network traffic from other applications
- Administrator rights on the computer used not only during the installation, **but also during operation of the OSS.**

3.2 PC Settings

To avoid problems during the vehicle session, it is necessary to make changes to "Display Properties" and "Power".

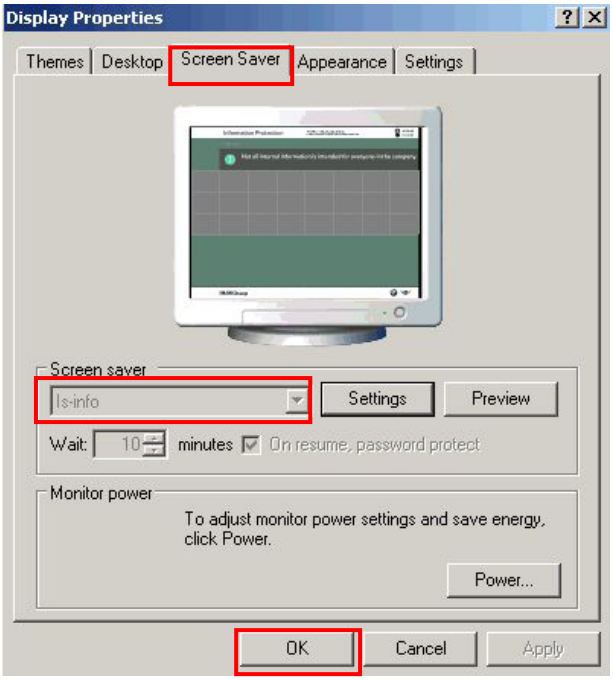
3.2.1 Display and screen saver properties

To set the display properties, proceed as follows:

- "Start > Settings > Control Panel > Display"

The "Display Properties" dialogue box is displayed.

- Select the "Screen Saver" index tab



Select "(None)" as the screen saver

- Acknowledge with "OK".

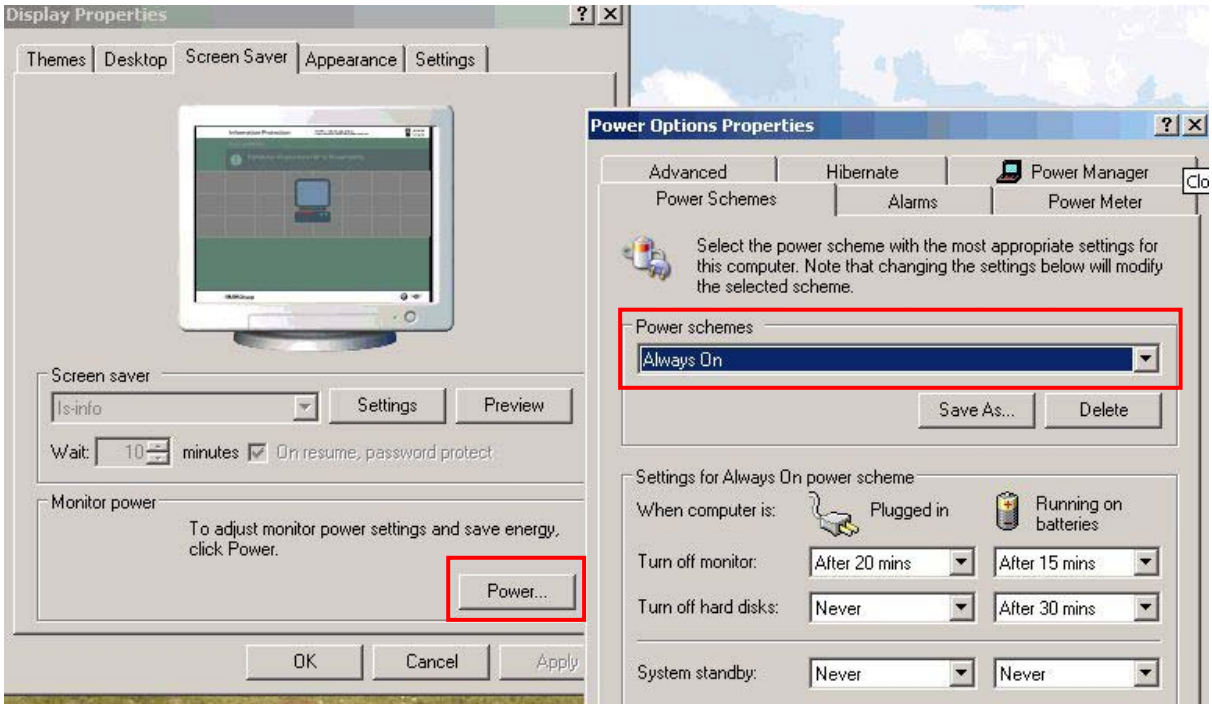
3.2.2 Power management

To set the power options properties, proceed as follows:

- "Start > Settings > Control Panel > Display"

The "Display Properties" dialogue box is displayed.

- Select the "Screen Saver" index tab
- Select "Power…"



The "Power Options Properties" are displayed.

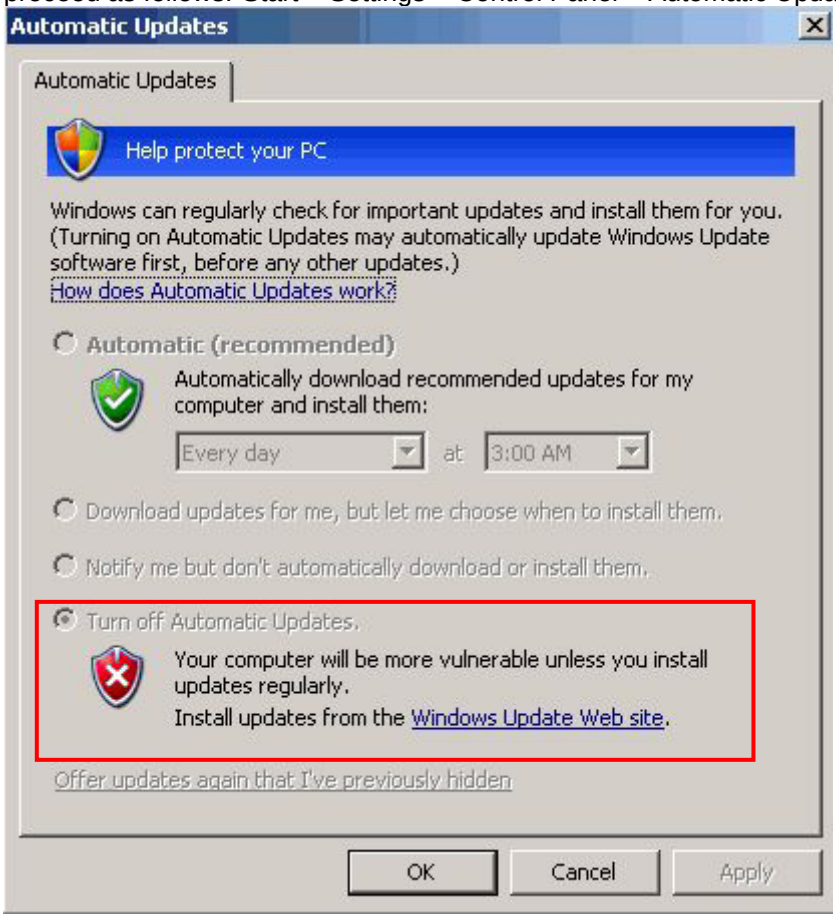
- Select the "Power Schemes" index tab
- Select the "Always On" power scheme
- Acknowledge with "OK".

NOTE

Always use an A/C adapter when using a laptop. Never program the vehicle in battery mode.

3.2.3 Automatic updates

Turn off Automatic Updates **during programming**. To set the "Automatic Updates" properties, proceed as follows:"Start > Settings > Control Panel > Automatic Updates"


Automatic Updates
Automatic Updates
Help protect your PC
Windows can regularly check for important updates and install them for you. (Turning on Automatic Updates may automatically update Windows Update software first, before any other updates.)
How does Automatic Updates work?
Automatic (recommended)
Automatically download recommended updates for my computer and install them:
Every day
at
3:00 AM
Download updates for me, but let me choose when to install them.
Notify me but don't automatically download or install them.
Turn off Automatic Updates.
Your computer will be more vulnerable unless you install updates regularly.
Install updates from the Windows Update Web site.
Offer updates again that I've previously hidden
OK
Cancel
Apply

The "Automatic Updates" dialogue box is displayed.

- Select "Turn off Automatic Updates"
- Acknowledge with "OK"
- Turn on "Automatic Updates" after programming.

3.2.4 Browser settings

To ensure that installation of the individual components can be run, it is necessary to make some configurations to the browser used (Microsoft Internet Explorer 6/7). Refer to the following chapters for the required settings to the corresponding browser. Dialogue boxes may be displayed during installation. These must be observed and acknowledged.

3.2.5 Turning off pop-up blocker

To turn off the pop-up blocker, proceed as follows:

- Start the browser
- Select "Tools > Pop-up Blocker > Turn Off Pop-up Blocker".

Once the pop-up blocker has been deactivated, "Turn On Pop-Up Blocker" is displayed in the submenu item.

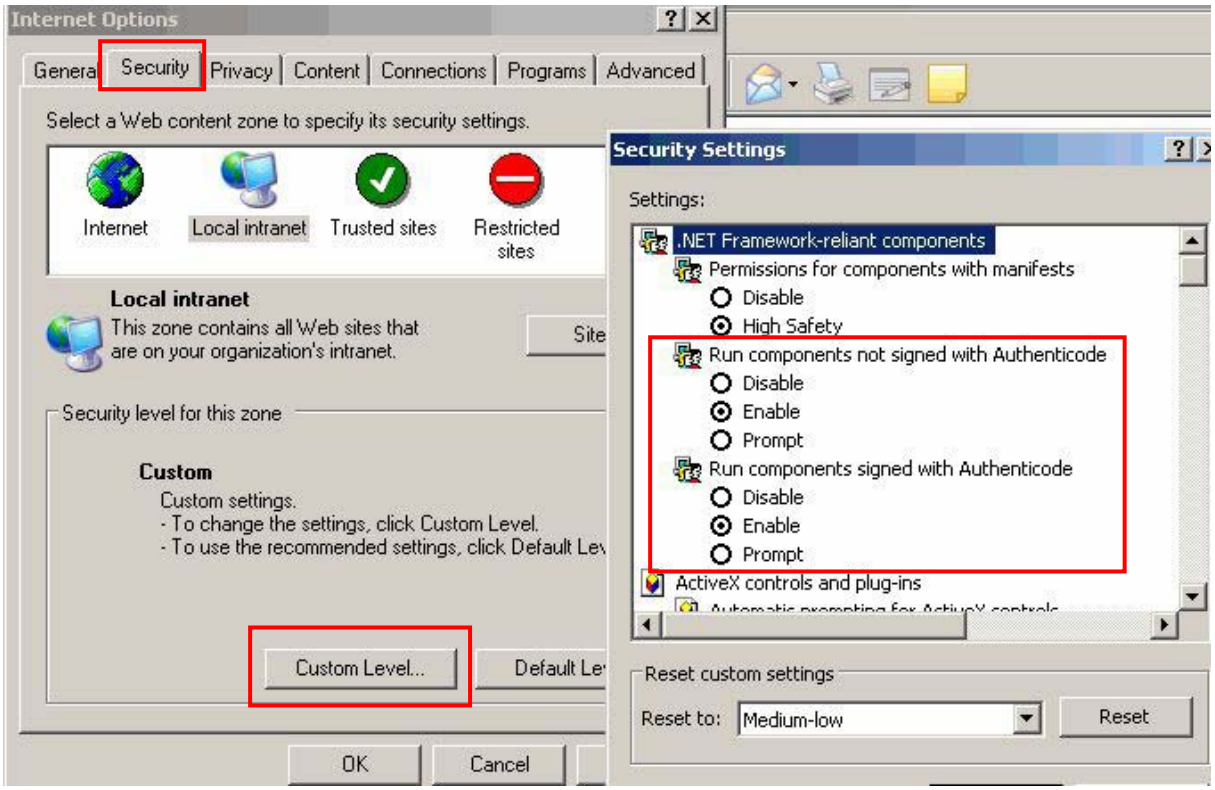
3.2.6 Security settings

To set the security settings properties, proceed as follows:

- Select "Tools > Internet Options"

The "Internet Options" dialogue box is displayed.

- Select the "Security" index tab
- In the "Security level for this zone" box, select "Custom Level…"



The Security Settings dialogue box is displayed.

"Enable" the following settings in ".NET Framework-reliant components":

- Run components signed with Authenticode
- Run components not signed with Authenticode
- Acknowledge "OK"

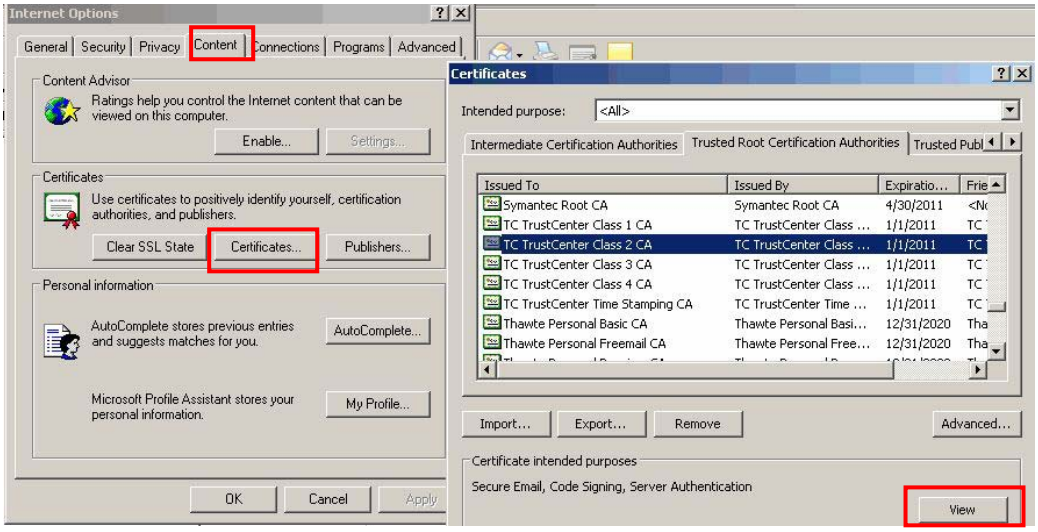
3.2.7 Certificates

To set the certificates properties, proceed as follows:

- Select "Tools > Internet Options"

The "Internet Options" dialogue box is displayed.

- Select the "Content" index tab
- In the Certificates field, select "Certificates"

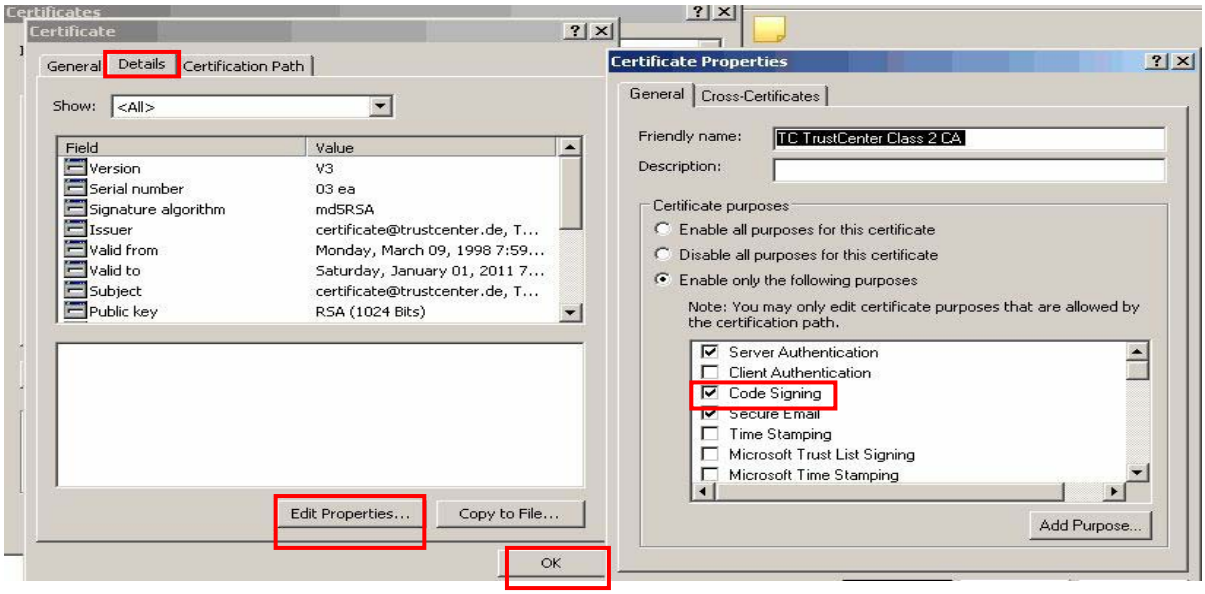


The Certificates dialogue box is displayed.

- Select the "Trusted Root Certification Authorities" index tab
- Select the "TC TrustCenter Class 2 CA" certificate
- Select "View"

The "Certificate" dialogue box is displayed.

- Select the "Details" index tab
- Select "Edit Properties…"



The "Certificate Properties" dialogue box is displayed.

- Insert a check/tick symbol in the "Code Signing" selection box
- Acknowledge with "OK".

NOTE

Firewall software information may be displayed if a firewall is used. Observe and acknowledge such information.

NOTE

Bluetooth connections may give rise to programming aborts and thus to programming errors. Deactivate Bluetooth connections.

3.3 Software Installation

NOTE

webISTA use does not require the installation of OSS software.

The required software for installation can be found under the Downloads section of the homepage.

Please install software in the following sequence:

- Install Pass Thru Tool manufacturer driver*
- Download and install BMW Group Pass Thru Tool driver (Setup.exe)*
- Download and install WSM Online (WSM Online)
- Download and install ISTA Client
- Complete software installation over the internet
  *Pass Thru Tool drivers are not required when using an ICOM

NOTE

Entries are also made in the Start menu when the software components are installed. Do not call up the programs from the Start menu. Start ISTA only from the OSS portal.

NOTE

If your PC is protected by virus protection programs or a firewall, you must allow OSS software access to the Internet during installation and operation.

NOTE

To verify installation, you can check the following inputs in the Control Panel, "Software":

BMW Group PTT driver: PassThruD
WSM Online: IVM Manager, PTT-Agent, WSM-Online
ISTA: ISTA-Installer

3.3.1 Installing Pass Thru Tool (PTT) driver

Please follow the instructions included with your Pass Thru Tool or contact the manufacturer for details on driver installation.

3.3.2 Installing BMW Group Pass Thru Driver - Setup.exe

You will need the BMW PTT driver if you are going to use a PTT diagnosis interface.

► Install the BMW PTT driver as follows:

◊ Download the BMW PTT driver (setup.exe)

◊ Open the file

◊ Select the user interface language

◊ Click on "Next >"

◊ Enter the user name and company name and decide whether only you or all users may use the application

◊ Click on "Next >"

◊ Select the destination folder and click on "Next"

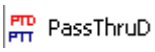
◊ Click on "Next >" or go back to make changes to the parameterisation already conducted.

◊ Click on "Finish"

◊ Click START>All Programs>PassThruD>Configuration

◊ Select your Pass Thru tool as default

For verification: The following entry is made in Control Panel, "Software":



3.3.3 Installing WSM Online

◊ Download the WSM Online software (WSM_Online.msi)

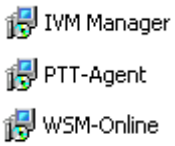
◊ Open the WSM Online application

◊ Follow the installation wizard to install

◊ Click the "Finish" button

◊ Click on "Yes" to restart the computer

For verification: The following three entries are made in Control Panel, "Software":



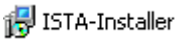
3.3.4 Installing ISTA Client

◊ Download the ISTA Client software (ISTA Client.exe)

◊ Open the ISTA Client software

◊ Follow the installation wizard to complete the installation

For verification: The following three entries are made in Control Panel, "Software":



NOTE

During the installation of the ISTA Client the “Antares.com” user will be added to the windows user account page. This account is required for the communication of the ISTA web services between the PC and the remote ISTA server.

4.0 Continued Installation

After installation of the required software packages, completion of the installation requires the use of the corresponding links found on the homepage to connect to the OSS server via the internet.

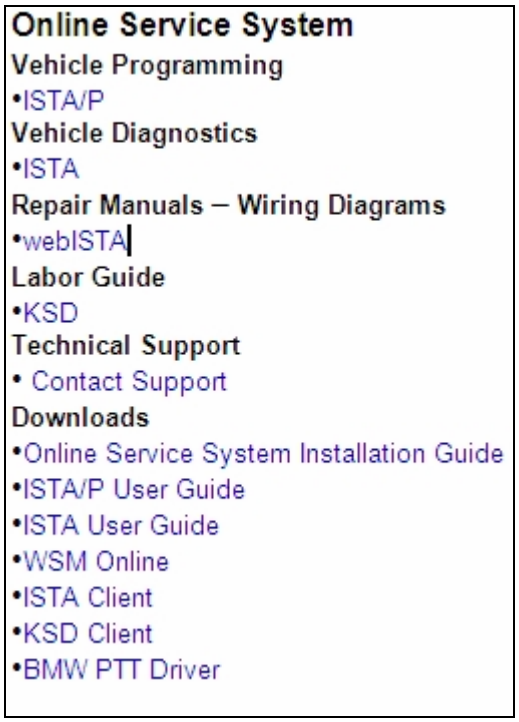


Fig. 1

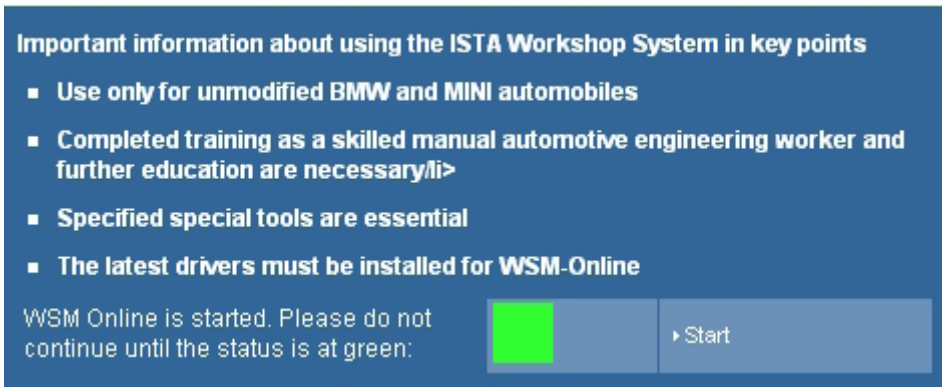

Important information about using the ISTA Workshop System in key points
Use only for unmodified BMW and MINI automobiles
Completed training as a skilled manual automotive engineering worker and further education are necessary/li>
Specified special tools are essential
The latest drivers must be installed for WSM-Online
WSM Online is started. Please do not continue until the status is at green:
Start

Fig.2

Depending on the application, PC, and internet connection speed the installation may take from one to several hours to complete. All applications operate independently and can be installed separately.

4.1 KSD (Labor Guide)

- ◊ Download and open the KSD Client application (KSD_Webclient.msi)
- ◊ Follow the installation wizard to complete the installation.
- ◊ Click the “KSD” link on the website homepage (see fig.1).
- ◊ The OSS portal window will open.
- ◊ Wait for the status box to turn green (Fig.2).
- ◊ Click START.

◊ The KSD dialog box will appear.

◊ Click open.

◊ KSD software installation will begin.

4.2 ISTA/P

◊ Click the “ISTA/P” link on the website homepage (see fig.1).

◊ The OSS portal window will open.

◊ Wait for the status box to turn green (fig.2).

◊ Click Start.

◊ The “Launching Application” window is displayed.

◊ The “Client Checker” application window is displayed.

◊ Click Run.

◊ A security warning is displayed.

◊ Click Run to allow the installation.

◊ The ISTA/P application will install and launch.

Refer to the ISTA/P Online manual for operation information.

4.3 ISTA

◊ Click the “ISTA” link on the website homepage (see fig.1).

◊ The OSS portal window will open.

◊ Wait for the status box to turn green (fig.2).

◊ Click Start.

◊ The ISTA dialog box will appear.

◊ Click Open.

◊ ISTA software installation will begin.

NOTE

Approx. 900MB of data will be downloaded to your PC. This process can take 1-2 hours to complete.

Refer to the ISTA Online Manual for operation information.

4.4 Technical Support

◊ Click the “Contact Technical Support” link on the home page (fig1).

◊ Complete and submit the support form for assistance

5.0 Frequently Asked Questions

- **An application is not working. Is there a firewall problem?**
  Make sure that the following ports in the firewall are open:
    - Port 80 TCP
    - Port 443 TCP
    - Port 23011 TCP
    - Port 23012 TCP
    - Port 427 UDP
    - Port 11352 UDP
- **Is WSM Online fully installed?**
  Call up the Task Manager. Click on **Processes** and check that the following 5 processes are running:
    1. WSM-Online-Agent.exe
    2. WSM-Online-Manager.exe
    3. WSM-Online-SSL-Proxy.exe
    4. IVM-Online-Manager.exe
    5. PTT-Agent.exe

    Important: It may take up to 15 minutes after the computer has booted until all processes are running!

    If one these processes is not running, re-install WSM Online. To do so, it is necessary to uninstall WSM Online first:

    - Start --> Programs --> WSM-Online --> Uninstall WSM-Online

    Please note that running the WSM-Online uninstall wizard from the Control Panel (Add or Remove Programs) does **not** completely remove WSM-Online!

- **WSM Online's status remains red. What can I do?**
  Check:
    1. Verify that WSM Online has been installed correctly.
    2. Check if there is a firewall/anti-virus configuration problem.

- **ISTA/P is requesting an activation code or part number during programming**
    - Send an email to tech@bmwna.com with the following information:
        - Name
        - Email address
        - VIN number
        - A description of the work performed
        - The information requested by the ISTA/P application.

- **How do I remove the ISTA Client?**

  To remove the ISTA client, it is necessary to use the ISTA uninstall application:

  - Start --> Programs --> ISTA --> Uninstall ISTA

  Please note that running the ISTA uninstall wizard from the Control Panel (Add or Remove Programs) does **not** completely remove ISTA!

- **I have an error during the installation of the 3G Online Service System, how do I contact support?**

  - Use the “Contact Technical Support” link on the website homepage to submit a request.

- **Why has my ICOM been frozen for several minutes?**

  - Firmware update in progress. Identifiable by the red light on the ICOM.

- **KSD2 is not working in Windows Vista**

  Problem caused by Internet Explorer 7:

  - Internet Options
  - Advanced
  - Uncheck the "Check for server certificate revocation" checkbox
  - Restart

- **Our IT Support cannot enable the OSS unless you specify your IP address**

Current addresses:	oss.bmw.de (160.46.247.210) oss-app-prod.bmw.com (160.46.247.208) 3gio-app-us.bmw.com (170.34.100.20)
Port: :	HTTPS (443)